

# RESPONSE

## DETAILED ACTION

### *Status of Application*

#### 1. CLAIMS.

- i. Claim 1 is Currently Amended.
- ii. Claim 2 is Canceled.
- iii. Claims 3 to 5 are Currently Amended.
- iv. Claim 6 is Canceled.
- v. Claim 7 is Currently Amended.
- vi. Claims 8 to 13 are Canceled.
- vii. Claims 14 to 19 are New.

The above-mentioned changes are further explained below. The portions of claim that have been deleted from originally submitted claims are crossed out. The terms that have been newly added in originally submitted claims are underlined.

**[Claim 1]** (Currently Amended). A topical skin darkening ~~or skin tanning~~ composition ~~comprising~~ consisting of: (i) At least one tyrosinase substrate ~~composition~~ agent for melanin synthesis boost, and (ii) At least one tyrosinase activator ~~composition~~ agent, and (iii) ~~A cosmetically or pharmaceutically suitable carrier composition or delivery system.~~

**[Claim 2]** (Canceled). A topical skin darkening or skin tanning composition comprising: (i) At least one tyrosinase substrate composition for melanin synthesis boost, and (ii) At least one tyrosinase activator composition, and (iii) At least one skin surface coloring composition, and (iv) A cosmetically or pharmaceutically suitable carrier composition or delivery system.

**[Claim 3]** (Currently Amended). A composition according to claim 1 wherein, (i) From about 0.0001% to about 60% of at least one tyrosinase substrate ~~composition~~ agent for melanin synthesis boost, and (ii) From about 0.0001% to about 20% of at least one tyrosinase activator ~~composition~~ agent, and, (iii) ~~From about 1% to about 99% of a cosmetically or pharmaceutically suitable carrier composition or delivery system.~~

**[Claim 4]** (Currently Amended). A composition according to claim 1 wherein tyrosinase substrate ~~composition~~ agent ~~can be selected from, but not limited to is selected from~~ tyrosine, dihydroxy phenylalanine, L-DOPA, Mucuna pruriens extract, catechol, and their structural chemical ~~derivatives~~ analogs.

**[Claim 5]** (Currently Amended). A composition according to claim 1 wherein tyrosinase activator ~~composition agent can be selected from, but not limited to is selected from~~ copper ATP, Glutathione, Cystine, Cysteine, N-Acetyl-Cystine, N-Acetyl-Cysteine, copper cystine complex, copper cysteine complex, copper N-acetyl-cystine complex, copper N-acetyl-cysteine complex, copper tyrosine complex, copper L-DOPA complex, copper Mucuna pruriens complex, copper glutathione complex, copper carnosine complex, ~~various copper chelates in which copper is concurrently bound with both oxygen and nitrogen electron donors, and combinations thereof.~~

**[Claim 6]** (Canceled). A composition according to claim 1 wherein cosmetically or pharmaceutically acceptable delivery system or carrier base can optionally include additional skin beneficial ingredients selected from skin cleansers, surfactants (cationic, anionic, non-ionic, amphoteric, and zwitterionic), skin and hair conditioning agents, vitamins, hormones, minerals, plant extracts, anti-inflammatory agents, concentrates of plant extracts, emollients, moisturizers, skin protectants, humectants, silicones, skin soothing ingredients, analgesics, skin penetration enhancers, solubilizers, moisturizers, emollients, anesthetics, colorants, perfumes, preservatives, seeds, broken seed nut shells, silica, clays, beads, luffa particles, polyethylene balls, mica, pH adjusters, processing aids, and combinations thereof.

**[Claim 7]** (Currently Amended). A composition according to claim 1 wherein a cosmetically acceptable delivery system or a carrier base is included. ~~can be selected in the form of a lotion, cream, gel, spray, thin liquid, body splash, mask, serum, solid cosmetic stick, lip balm, shampoo, liquid soap, bar soap, bath oil, cologne, hair conditioner, salve, collodion, impregnated patch, impregnated strip, skin surface implant, and any other such cosmetically or pharmaceutically acceptable topical delivery forms.~~

**[Claim 8]** (Canceled). The compositions according to claim 1 wherein the cosmetically or pharmaceutically acceptable delivery system can be traditional water and oil emulsions, suspensions, colloids, microemulsions, clear solutions, suspensions of nanoparticles, emulsions of nanoparticles, powders, or anhydrous compositions.

**[Claim 9]** (Canceled). A composition according to claim 2 wherein, (i) From about 0.0001% to about 60% of at least one tyrosinase substrate composition for melanin synthesis boost, and (ii) From about 0.0001% to about 20% of at least one tyrosinase activator composition and, (iii) From about 0.0001% to about 40% of at least one skin surface coloring composition, and (iv) From about 1% to about 99% of a cosmetically or pharmaceutically suitable carrier composition or delivery system.

**[Claim 10]** (Canceled). A composition according to claim 2, wherein skin surface coloring composition can be selected from, but not limited to dihydroxyacetone (DHA), lawsone, juglone, erythrulose, glyceraldehyde, 6-ald-D-fructose, hydroxymethylglyoxal, mucondialdehyde, malealdehyde, substituted succindialdehydes, methylglyoxal (pyruvaldehyde) and substituted 4,4'-dihydroxypyrazolin-5-ones, henna, various Arianor dyes, melanin, caramel, charcoal, and combinations thereof.

**[Claim 11]** (Canceled). A composition according to claim 2 wherein cosmetically or pharmaceutically acceptable delivery system or carrier base can optionally include additional skin beneficial ingredients selected from skin cleansers, surfactants (cationic, anionic, non-ionic, amphoteric, and zwitterionic), skin and hair conditioning agents, vitamins, hormones, minerals, plant extracts, anti-inflammatory agents, concentrates of plant extracts, emollients, moisturizers, skin protectants, humectants, silicones, skin soothing ingredients, analgesics, skin penetration enhancers, solubilizers, moisturizers, emollients, anesthetics, colorants, perfumes, preservatives, seeds, broken seed nut shells, silica, clays, beads, luffa particles, polyethylene balls, mica, pH adjusters, processing aids, and combinations thereof.

**[Claim 12]** (Canceled). A composition according to claim 2 wherein a cosmetically acceptable delivery system or a carrier base can be selected in the form of a lotion, cream, gel, spray, thin liquid, body splash, mask, serum, solid cosmetic stick, lip balm, shampoo, liquid soap, bar soap, bath oil, cologne, hair conditioner, salve, collodion, impregnated patch, impregnated strip, skin surface implant, and any other such cosmetically or pharmaceutically acceptable topical delivery forms.

**[Claim 13]** (Canceled). The compositions according to claim 2 wherein the cosmetically or pharmaceutically acceptable delivery system can be traditional water and oil emulsions, suspensions, colloids, microemulsions, clear solutions, suspensions of nanoparticles, emulsions of nanoparticles, powders, or anhydrous compositions.

**[Claim 14]** (New). A composition according to claim 4, wherein tyrosinase substrate agent is Mucuna prurience extract.

**[Claim 15]** (New). A composition according to claim 5, wherein tyrosinase activator agent is copper ATP, also known as copper adenosine triphosphate.

**[Claim 16]** (New). A composition according to claim 7, wherein a cosmetically acceptable delivery system is selected from a lotion, cream, gel, spray, thin liquid, body splash, mask, serum, solid cosmetic stick, lip balm,

shampoo, liquid soap, bar soap, bath oil, cologne, hair conditioner, salve, collodion, impregnated patch, impregnated strip, or skin surface implant.

**[Claim 17]** (New). The compositions according to claim 7, wherein the cosmetically or pharmaceutically acceptable carrier base is selected from traditional water and oil emulsions, suspensions, colloids, microemulsions, clear solutions, suspensions of nanoparticles, emulsions of nanoparticles, powders, or anhydrous compositions.

**[Claim 18]** (New). A composition according to claim 16, wherein a cosmetically acceptable delivery system is a lotion.

**[Claim 19]** (New). The compositions according to claim 17, wherein the cosmetically or pharmaceutically acceptable carrier base is a traditional water and oil emulsion.

A numbered list of all claims-related actions is submitted separately under "Claims".

### ***Claims Objections.***

2. Claims 6 and 11 are Canceled. No correction is thus required.
3. All claims have now been corrected, per the Examiner comment, in the newly submitted Claims amendment.

### ***Claims Rejections – 35 USC §112***

4. Claim 1 (Currently Amended) distinctly claims the subject matter.
5. Claim 4 and 5 are Currently Amended, and Claim 6 is Canceled. These actions are taken to achieve compliance with the Examiner action. Claim 11 is also Canceled for this purpose. Claim 4 (Currently Amended) specifies "their structural chemical analogs".

### ***Claims Rejections – 35 USC §102***

6. The Applicant understands this quotation.
7. Garlen et al. (US 4,707,354) teachings do not apply to the present invention, as none of the agents or compositions claimed by Garlen et al. is included in the

present invention in its currently amended form noted under **Status of Application** section above.

8. Robinson et al. (US 5,603,923) teachings do not apply to the present invention, as dihydroxyacetone is not included in the compositions of the present invention. The present invention is not a skin tanning composition, which Robinson invention is. The present invention causes natural darkening of skin via natural enzyme modulation, an unprecedented discovery.

### ***Claims Rejections – 35 USC §103***

9. The Applicant understands the quotation.

10. Claims 9 to 13 are Canceled. No response is thus necessary.

### **Determination of the Scope and Content of the Prior Art (MPEP 2141.01)**

Robinson et al. teachings do not apply to the present invention, as the compositions of the present invention do not require dihydroxyacetone in any amount, which is the key agent in Robinson compositions. Also, Robinson invention is a skin tanning composition. The skin-tanning portion of claim in the present invention has been canceled, as noted in Claim 1 (Currently Amended).

### **Ascertainment of the Differences Between the Prior Art and the Claims (MPEP 2141.02)**

The present invention is not a skin tanning composition, related in any manner to Robinson et al. teachings.

### **Finding of Prima Facie Obviousness Rationale and Motivation (MPEP 2142-2143)**

The obviousness rationale proposed by the Examiner does not pertain to the present invention, in its Currently Amended form presented herein.

The present invention does not require the following components (in any amount), which Robinson et al. compositions do require:


(a) Dihydroxyacetone, and (d) a topical carrier.

Also, Robinson et al. invention is a skin tanning composition, which artificially tans the skin by simply causing a skin coloring effect by dihydroxyacetone, a well-known skin-coloring agent.

The present invention actually modifies the enzyme that causes the skin darkening in a permanent form. It does not require the key components of Robinson et al. invention.

Claims 14 (New) to 19 (New) further restrict the claims of the present invention, which also establish the differences from Robinson et al. teachings.

The Applicant hopes the Examiner finds these actions satisfactory.

A handwritten signature in black ink, appearing to read 'Shyam Gupta', with a stylized flourish at the end.

**Shyam Gupta**  
**Applicant**  
**November 5, 2007**

## CLAIMS

Claim 1 is Currently Amended.

Claim 2 is Canceled.

Claims 3 to 5 are Currently Amended.

Claim 6 is Canceled.

Claim 7 is Currently Amended.

Claims 8 to 13 are Canceled.

Claims 14 to 19 are New.

1. (Currently Amended). A topical skin darkening composition consisting of: (i) At least one tyrosinase substrate agent, and (ii) At least one tyrosinase activator agent.

2. (Canceled).

3. (Currently Amended). A composition according to claim 1 wherein, (i) From about 0.0001% to about 60% of at least one tyrosinase substrate agent for melanin synthesis boost, and (ii) From about 0.0001% to about 20% of at least one tyrosinase activator agent.

4. (Currently Amended). A composition according to claim 1 wherein tyrosinase substrate agent is selected from tyrosine, dihydroxy phenylalanine, L-DOPA, Mucuna pruriens extract, catechol, and their structural chemical analogs.

5. (Currently Amended). A composition according to claim 1 wherein tyrosinase activator agent is selected from copper ATP, Glutathione, Cystine, Cysteine, N-Acetyl-Cystine, N-Acetyl-Cysteine, copper cystine complex, copper cysteine complex, copper N-acetyl-cystine complex, copper N-acetyl-cysteine complex, copper tyrosine complex, copper L-DOPA complex, copper Mucuna pruriens complex, copper glutathione complex, copper carnosine complex, and combinations thereof.

6. (Canceled).

7. (Currently Amended). A composition according to claim 1 wherein a cosmetically acceptable delivery system or a carrier base is included.

8. (Canceled).

9. (Canceled).

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Canceled).

14. (New). A composition according to claim 4, wherein tyrosinase substrate agent is Mucuna pruriens extract.

15. (New). A composition according to claim 5, wherein tyrosinase activator agent is copper ATP, also known as copper adenosine triphosphate.

16. (New). A composition according to claim 7, wherein a cosmetically acceptable delivery system is selected from a lotion, cream, gel, spray, thin liquid, body splash, mask, serum, solid cosmetic stick, lip balm, shampoo, liquid soap, bar soap, bath oil, cologne, hair conditioner, salve, collodion, impregnated patch, impregnated strip, or skin surface implant.

17. (New). The compositions according to claim 7, wherein the cosmetically or pharmaceutically acceptable carrier base is selected from traditional water and oil emulsions, suspensions, colloids, microemulsions, clear solutions, suspensions of nanoparticles, emulsions of nanoparticles, powders, or anhydrous compositions.



18. (New). A composition according to claim 16, wherein a cosmetically acceptable delivery system is a lotion.

19. (New). The compositions according to claim 17, wherein the cosmetically or pharmaceutically acceptable carrier base is a water and oil emulsion.